We at Stormwater Management, Inc. applaud the work Ecology has done to revise the Industrial Stormwater General Permit. In general, we believe the permit is thorough and clear and will improve environmental performance of permitted industrial facilities in the state. We have prepared several suggestions or comments on the document language. We believe these suggestions will further improve the State's industrial stormwater regulatory program.

We have used italics to indicate text included in the draft permit, underscore italics for new text we suggest, and strike-through italics for text we suggest be deleted from the draft permit language.

1) Special Condition S2.C.2.b. (page 11 of 58)

> *"Unless otherwise authorized by Ecology in writing, implementation of non-capital best management practices (BMPs) must be completed within 90 days of receiving coverage. BMPs that require a capital investment must be implemented within nine (9) months of receiving coverage unless otherwise authorized by Ecology in writing."*

We suggest Ecology stipulate a maximum acceptable implementation time frame for BMPs that require a capital investment that fit the 'otherwise authorized by Ecology' scenario. We suggest Ecology stipulate an implementation period that does not exceed three (3) years for all BMPs that require a capital investment.

We suggest the following revision to Special Condition S2.C.2.b.

> *"Unless otherwise authorized by Ecology in writing, implementation of non-capital best management practices (BMPs) must be completed within 90 days of receiving coverage. BMPs that require a capital investment must be implemented within nine (9) months of receiving coverage unless otherwise authorized by Ecology in writing. In any case, BMPs that require a capital investment must be implemented within three (3) years of receiving coverage."*

2) Special Condition S3.F.1. (page 19 of 58)

> *"1. Petroleum products as identified by an oil sheen or"*

We suggest Ecology use the word 'oil' instead of petroleum and that synthetic and processed oil be included in the condition. Non-petroleum and synthetic oils and lubricants will leave a visible sheen on the water surface and should also be prohibited.

We suggest the following revision to Special Condition S3.F.1.

> *"1. ~~Petroleum~~ Synthetic, natural or processed oil or oil-containing products as identified by a~~n oil~~ sheen or"*

3) Special Condition S4.1. (page 20 of 58)

"1. All samples will be grab samples taken within the first hour of discharge… "

This statement allows significant latitude to Permittees. Water quality of a grab sample taken during the first hour of discharge can be highly variable and influenced by the person collecting dependent on when during the hour that the sample is collected. A better sampling strategy is to use time-proportional, or better yet, flow-proportional sampling during the hour long period. Furthermore, the use of automated sampling equipment would increase the chances of capturing the first flush pollutant loading interval. Our experience has been that installing and using automated sampling equipment over the long run reduces the uncertainty associated with sampling and lowers the overall monitoring costs.

4) Special Condition S4.2. (page 20 of 58)

"2 The storm event sampled must be at least 0.1 inches of rain in a 24-Hour period… "

The rainfall depth required should be stated as a specific range, from at least 0.1 inches of rain to the 24-hour design storm rainfall depth in the geographic area applicable to the Permittee.

5) Special Condition S4.A.2 Stormwater Sampling (page 21 of 58)

"…The permittee may suspend stormwater sampling and analysis for turbidity, pH, zinc, and petroleum based on consistent attainment of benchmark values. Consistent attainment is defined as eight consecutive quarters (any quarter with no stormwater discharge is not counted) where the reported value for all four parameters are equal to or less than the benchmark values. For pH equal to or less than the benchmark values means that…"

We have two suggestions for this paragraph. First, it is unclear whether Ecology intends that a permittee must demonstrate consistent attainment of benchmark values for ALL four parameters in order to suspend stormwater sampling for those parameters, or that Ecology would allow a permittee to suspend sampling for individual parameters on the basis of consistent attainment of benchmark values for EACH parameter. Since the process to demonstrate consistent attainment of benchmarks is fairly rigorous (i.e. eight consecutive quarters of testing) we suggest Ecology allow permittees to demonstrate attainment on an individual parameter basis.

Second, the final sentence would be clearer if the phrase 'pH equal to or less than the benchmark values' is put into quotations.

Assuming Ecology concurs with both our comments above, we suggest the following revision to Special Condition S4.A.2.

"…The permittee may suspend stormwater sampling and analysis for each of the individual parameters of turbidity, pH, zinc, and petroleum provided the permittee demonstrates ~~based on~~ consistent attainment of benchmark values for each respective individual parameter. Consistent attainment is defined as eight consecutive quarters (any quarter with no stormwater discharge is not counted) where the reported value for each of the ~~all~~ four parameters is~~are~~ equal to or less than the benchmark values. The phrase~~For~~ 'pH equal to or less than the benchmark values' means that…"

6) Special Condition S5.B. Records Retention (page 27 of 58)

"The Permitee shall retain records of monitoring information for a minimum of three (3) years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology."

The permit is not clear about requirements that pollution control or treatment structures must be maintained according to manufacturer recommendations nor does it stipulate the duration that inspection and maintenance records must be retained.

We suggest Special Condition S5.B. be revised as follows:

"The Permitee shall retain records of monitoring information and maintenance of BMPs for a minimum of three (3) years. Such information shall include all calibration and maintenance records for monitoring instruments and BMPs, ~~and~~ all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology. Inspection and maintenance protocols and frequencies for control and treatment BMPs must be performed according to manufacturer's or designer's recommendations."

7) Special Condition S6.C (page 28 of 58)

"C. The facility must meet the following minimum conditions:

1. All industrial materials and activities must be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff...

4. Stormwater is not subject to significant levels of pollutants from impervious surfaces such as roofs."

As written, we believe these two conditions conflict with one another. We believe the intent of this paragraph is to exclude from "No Exposure" Certification facilities that have significant copper or galvanized roofing. Galvanized roofing used for corrosion protection has been shown to release potentially problematic concentrations of zinc to stormwater. Copper roofing releases copper to stormwater.

We suggest these sentences in Special Condition S6.C. be revised as follows:

"C. The facility must meet the following minimum conditions:

1. All industrial materials and activities must be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff...

4. Impervious surfaces such as roofs must not release ~~Stormwater is not subject to~~ significant levels of pollutants to stormwater ~~from impervious surfaces such as roofs~~. Galvanized or copper roofingare examples of impervious surfaces that releases significant levels of pollutants to stormwater. Facilities with a significant area of galvanized or copper roofing would not qualify for the "No Exposure" Certification."

8) Special Condition S9.A.2. (page 32 of 58)

"Ecology may request a written copy or update of a previously submitted stormwater pollution prevention plan (SWPPP.)"

The SWPPP is not required to be submitted. We propose the following wording substitution to this section:

"Ecology may request a written copy or update of a previously completed ~~submitted~~ stormwater pollution prevention plan (SWPPP.)"

9) Special Condition S9.A.4. (page 33 of 58)

"Unless otherwise authorized by Ecology in writing, noncapital BMPs shall be completed within two weeks of completing the plan and capital BMPs within six months."

This statement for capital BMP implementation timeframe is different than Special Condition S1.C.2.b. (see comment 1 above) that pertains to existing facilities not previously permitted. Special Condition S1.C.2.b stipulates an implementation period of 90 days (3 months) for non-capital BMPs and nine months for capital BMPs.

Furthermore, the reference point for Special Condition S1.C.2.b is from time of coverage while for Special Condition S9.A.4 the time reference is from completing the plan. These differences are confusing. We suggest Ecology standardize these performance requirements to 90 days for non-capital BMPs and nine months for capital BMPs from time of coverage. Furthermore, we suggest Ecology stipulate an implementation period that does not exceed three (3) years from time of coverage for all BMPs that require a capital investment. Lengthening the compliance timeframe will also have the benefit of balancing Ecology's workload for new permit approvals.

We propose Special Condition S9.A.4 be revised as follows:

> *"Unless otherwise authorized by Ecology in writing, noncapital BMPs shall be completed within 90 days of coverage ~~two weeks completing the plan~~ and capital BMPs within nine ~~six~~ months of coverage. In any case, BMPs that require a capital investment must be implemented within three (3) years of receiving coverage."*

10) Special Condition S9.A.5. (page 33 of 58)

> *"The Stormwater Management Manual for Western Washington is the current edition of the SWMM as of the effective date of this permit. The Stormwater Management Manual for Eastern Washington will become available sometime after the effective date of this permit. Facilities in Eastern Washington shall use the western Washington manual as applicable or other appropriate manuals until the eastern Washington edition is available."*

Since the Western Washington Manual is not explicit as to which geographies in the state are covered (with the exception of the counties formerly covered under the Puget Sound Plan), it is suggested that Ecology stipulate explicitly the counties or geographies within the state that shall be governed by the Stormwater Management Manual for Western Washington. This paragraph should be explicit that Permittees in the included geographies must use the Western Washington Manual when selecting BMPs.

The final sentence of this paragraph offers great latitude to facilities not explicitly covered by the Western Washington Manual to seek out 'other appropriate' and possible much more lenient guidance manuals to reference. We suggest the Eastern Washington be explicitly defined and that facilities be required to use the Western Washington Manual guidance wherever possible. Only then should facilities be enabled to seek out other guidance. This would prevail until the Eastern Washington manual becomes available.

11) Special Condition S9.B.1. (page 34 of 58)

> *"…The SWPPP must address each potential source of pollutants with best management practices that will eliminate or reduce the potential to contaminate stormwater."*

We suggest this sentence be broadened to explicitly include control of pollutants that do contact storm water so as to prevent or reduce offsite migration of pollutants when pollution prevention alone is insufficient.

In many cases it is impractical to prevent contact of significant materials with stormwater, particularly for industries that utilize heavy equipment or vehicles to move process materials between buildings or storage areas. Although strong best management practices (BMPs) would dictate using totes or enclosed containers for process materials that could contact stormwater while being moved around the site, it is still probable that process materials will be exposed to storm water. For example hydraulic fluid, lubricating oil, brake dust and tire wear residue from mobile equipment; and dragout of process materials from buildings and manufacturing areas will contribute to stormwater pollution. Stormwater treatment should be employed for sites that have this type of activity and generate non-point source pollution.

Special Condition S9.B.1 does not explicitly cover expectations for control of incidental pollution of stormwater by Permittees. We believe to be protective of the environment as intended by the Clean Water Act, the role of rigorous controls or treatment should be emphasized to a greater extent in Washington's Industrial Stormwater General Permit.

We suggest the following revision to Special Condition S9.B.1.

> *"…The SWPPP must address each potential source of pollutants with best management practices that will eliminate or reduce the potential to contaminate stormwater. Where BMPs are ineffective or insufficient, the SWPPP must address stormwater controls and treatment that will eliminate or reduce the mass of pollutants discharged in stormwater."*

12) Special Condition S9.B.1.c. (page 35 of 58)

> *"c. **Industrial Activities:** The inventory of industrial activities will identify all areas associated with industrial activities…which have been or may potentially be sources of significant amounts of pollutants, including the following:"*

We suggest that Ecology include galvanized or copper roofing in the inventory of industrial activities because of the potential to generate zinc in stormwater runoff.

We suggest adding to Special Condition S9.B.1.c:

> *"(viii) Galvanized or copper roofing*

13) Special Condition S9.B.2. (page 35 of 58)

> *"2. **Monitoring Plan**…The discussion must include an estimate of the volume of discharge from each discharge point"*

We believe the word 'volume' should be replaced with the phrase 'range of flow rates' since Permittees will be required to visually estimate the value.

We suggest revising Special Condition S9.B.2:

> *"2. **Monitoring Plan**…The discussion must include an estimate of the range of flow rates ~~volume of~~ discharged from each discharge point"*

14) Special Condition S9.B.3.a.iii) (page 36 of 58)

> *"iii) Preventative Maintenance:…The SWPPP will include the schedule/frequency for completing each maintenance task."*

The permit is not clear about maintenance expectations for pollution control or treatment structures. As a quality assurance measure, we suggest Permittees be required to maintain equipment according to manufacturers recommendations.

We suggest Special Condition S9.B.3.a.iii) be revised as follows:

> *"iii) Preventative Maintenance:…The SWPPP will include the schedule/frequency for completing each maintenance task. Inspection and maintenance protocols and frequencies for control and treatment BMPs must be performed according to manufacturer's or designer's recommendations."*

15) Special Condition S9.B.3.c (page 37 of 58)

> *"c. **Treatment BMPs:** Treatment BMPs are required when operational and source control BMPs are not adequate to reduce pollutants below a significant amount and maintain compliance with water quality standards."*

The phrase 'below a significant amount' is qualitative and will be difficult for Permittees to interpret. We suggest this portion of the sentence be struck to make the determination more quantitative.

We suggest Special Condition S9.B.3.c be revised as follows:

> *"c. **Treatment BMPs:** Treatment BMPs are required when operational and source control BMPs are not adequate to ~~reduce pollutants below a significant amount and~~ maintain compliance with water quality standards."*

16) General Conditions G2. (page 39 of 58)

> *"The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control"*

The permit can more clearly define the phrase "properly operate and maintain" as it relates to facilities and systems of collection, treatment, and control.

> *"The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control. Properly operated and maintained units shall be defined such that inspection and maintenance protocols and frequencies for control and treatment BMPs must be performed according to manufacturer's or designer's recommendations."*

17) Appendix #2 – Definitions. Capital Improvements, item 1. (page 50 of 58)

> "1. Treatment BMPs, including but not limited to: biofiltration systems including constructed wetlands; settling basins, oil/water separation equipment, and detention and retention basins."

Media filtration is particularly effective for control of oil, grease and associated volatile organic compounds, particularly as a polishing step to gravity separators. We suggest this definition offer media filtration as an option to owners. We suggest the following simple revision:

> "1. Treatment BMPs, including but not limited to: biofiltration systems including constructed wetlands; settling basins; oil/water separation equipment; media filtration; and detention and retention basins."

18) Appendix #2 – Definitions. (page 55 of 58)

> "Stormwater Management Manual for the Puget Sound Basin (SWMM) of Manual means the technical manual prepared by Ecology for use…"

We suggest this definition be updated to refer to the new Stormwater Management Manual for Western Washington (August 2001) as superceding the Puget Sound Basin Manual. Also, referring to the Puget Sound Manual as 'SWMM' is confusing since SWMM is used in the text of the permit in reference to the Stormwater Management Manual for Western Washington.

We further suggest that Ecology add a definition for the Stormwater Management Manual for Western Washington (SWMM) and indicate where Permittees may get a copy for reference purposes.

End of Comments

We appreciate having the opportunity to offer suggestions for improvement of the Washington Industrial Stormwater General Permit. Stormwater Management Inc. has considerable experience dealing with storm water issues in the northwest and nationally and hope Ecology views our suggestions favorably.